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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hardi Voelkel

WEBE-0021

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EXAMINER

VALONE, THOMAS F

ART UNIT

PAPER NUMBER

2858

NOTIFICATION DATE

DELIVERY MODE

08/18/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOCommunications@hoffmanwarnick.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,879	<b>Applicant(s)</b> VOELKEL ET AL.	
	<b>Examiner</b> THOMAS F. VALONE	<b>Art Unit</b> 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. In view of the Appeal Brief filed on 5/23/11, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/HUY Q PHAN/

Supervisory Patent Examiner, Art Unit 2858

### ***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

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of the following is required: The newly introduced term "middle" voltages in claims 19, 35, 39 does not appear anywhere in the specification originally filed with the application. For examination purposes, it is assumed to be the same or similar to "mean".

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 25, 33, 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 recites the limitation "the central processing unit" in line 3. There is insufficient antecedent basis for this limitation in the claim. The CPU should be claimed in claim 24 or 19 to overcome this rejection.

Claims 33 and 34 recites the limitation "further metallic layers" in line 2. There is insufficient antecedent basis for this limitation in the claim since they depend from claim 27 and 19. There are no metallic layers claimed in claim 19 nor 27 and it is not clear what is claimed. As a result, claims 33 and 34 have not been further examined on their merits.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 19-23, 27-32, 35-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Eichelberger (4,290,052) of record.

Regarding claims 19, 35, 40, Eichelberger teaches a probe device for a capacitive position finding of a target object in which the capacitive electrodes are arranged over the detection area (Fig. 1b), with a dependence of the probe voltages on the spacing of the target object from the given capacitive probe (T, Fig. 1b, col. 3, line 60-67), using the same coupling insulative layer (16, col. 3, line 60-68) as the applicant's disclosed coupling layer (instant disclosure, p. 17, Fig. 6, 7). Eichelberger further confirms the evaluation of the probe voltages by noting the "relatively high amplitude signals" appearing at the detector (col. 6, line 10-25). The term "evaluatable" is not given patentable weight, since like "configurable" and "may be comprised of", it expressly has not taken place and its capability is not measured by any claimed means. Eichelberger further teaches a capacitive voltage divider (col. 6, line 25-30) which includes a coupling capacitance for the probes to be connected across (Ctr, col. 3, line 65) to the supply voltage to be supplied with (Drive 0, Drive 1, Fig. 3, col. 6, line 10-30). Eichelberger further teaches a capacitance to the environment (Crc, col. 4, line 1-15 and col. 6, line 10-20, 55-65) together with the coupling capacitance forming a voltage divider with the probe voltages as middle voltages of the capacitive voltage dividers (col. 6, line 5-40), as best understood in light of the instant specification (p. 14) in terms of the mean voltage between the source potential and ground. Eichelberger further teaches the contributing variables to the coupling capacitance Ctr "are a function of the area of the electrode 18b and the thickness T and dielectric constant of the insulative

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layer 16" (col. 3, line 60-68), thus remaining uninfluenced by the target as claimed, as well as an evaluating device (53, 54, Fig. 3 and external circuitry, col. 6, line 30-40) connected to the probes which is processed to an output signal (53b, 54b, Fig. 3) which is a measure for the position of the target object to be found as in claims 1, 35, 40. Eichelberger further teaches at least one coupling electrode (18a, 20, Fig. 1b) on the facing side of the substrate (11, glass, col. 3, line 5-10) and on a PC board (16, col. 3, line 40-50), which is similar to the applicant's invention (instant disclosure, p. 17, last paragraph) and both are made of dielectric material as in claim 40.

Regarding claim 20, Eichelberger's coupling capacitances are at least partly constructed as discrete capacitors with parallel plates (Ctr, Fig. 4b).

Regarding claim 21 Eichelberger teaches one of the probes is a reference probe, since the multiplicity of probes are in parallel (col. 5, line 45-65).

Regarding claim 22, Eichelberger teaches the probes are distributed over a three dimensional detection area (Fig. 4b) in as much as the applicant's probes are somehow distributed over three dimensions.

Regarding claim 23, Eichelberger teaches the evaluating device for each probe has a rectifier (Q1 is a rectifier for current directed from 32 to 34, Fig. 2).

Regarding claim 27, Eichelberger teaches wherein the plurality of capacitive probes are distributed in a first area of a support (16, col. 3, line 40-50 and Fig. 1a) over the detection area in which the position of the target object is to be found (Fig. 2, 4b), for forming the coupling capacitances there is at least one coupling electrode (18b, Fig. 1a, 1b, 2, 4b) in a second area of the support by means of which coupling electrode a

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supply voltage (drive potential, Fig. 1b) can be coupled onto the probes and the support for forming a coupling layer is at least partly made from a dielectric material (glass, col. 3, line 5-15).

Regarding claim 28, Eichelberger teaches the plurality of capacitive probes (e.g., 18a, Fig. 1b) are distributed on one side of the support and the coupling electrode is on a facing side of the support.

Regarding claims 29, 30, Eichelberger teaches the support is constructed from a printed circuit board (16, col. 3, line 40-50), which normally has a degree of flexibility to one of ordinary skill, until it is cemented to the rear of the panel substrate (11, col. 3, line 50-60).

Regarding claim 31, Eichelberger teaches at least parts of the evaluating electronics are placed on the support (resistor, transistor, col. 5, line 30-40).

Regarding claim 32, Eichelberger teaches forming a unitary potential surface with the coupling electrode as a continuous metallic layer (conductive planar member, col. 5, line 20-40).

Regarding claim 36, Eichelberger teaches detecting a discrete object (Fig. 1b, 4b).

Regarding claim 37, Eichelberger teaches that all of the coupling capacitances are supplied with the same supply and a given frequency (col. 5, line 1-10 and Fig. 3).

Regarding claim 38, the examiner takes Official Notice that the quotients (or a simple ratio) of probe voltages can easily be formed by dividing two numbers for

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evaluating probe signals by a human operator or voltage divider circuit without serious burden.

Regarding claim 39, Eichelberger teaches a reference equivalent to one of ordinary skill of a “no-touch condition” for comparative signal evaluation (col. 4, line 25-35), which is the same as a reference probe, considering the spacing of the electrodes (col. 4, line 1-10).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichelberger (4,290,052) in view of Ramsdale (4,706,203).

The teachings of Eichelberger are reviewed above.

Eichelberger does not teach a microprocessor, central processing unit, a signal processor, or a multiplexer for the evaluating device.

Ramsdale from the same field of endeavor teaches a microprocessor (12, col. 5, line 40-50 and Fig. 1), central processing unit (col. 6, line 15-25), a signal processor (26, 12, col. 6, line 65-68), and a multiplexer (20, col. 5, line 35-45 and Fig. 1) for the evaluating device. Ramsdale further teaches taking a ratio (quotient) of raw voltage



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signals for evaluation (col. 3, line 40-55 and col. 4, line 40-50) and uses more than one rectifier (col. 5, line 20-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a microprocessor, central processing unit, a signal processor, and a multiplexer for the evaluating device since the first three are often the same device which has the benefit of performing a selective operation of gates when more than one probe is involved, which is equivalent to multiplexing as suggested by Ramsdale (col. 6, line 50-68).

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 19-40 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stern and Vogel teach a two probe capacitive measurement for liquid level with quotient and divider circuits.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS F. VALONE whose telephone number is (571)272-8896. The examiner can normally be reached on M-Tu-W, 9:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Phan can be reached on 571-272-7924. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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